

## ASSIGNMENT 17

Textbook Assignment: "Forensics (continued)," chapter 16, pages 16-15 through 16-40,

- 17-1. Which of the following materials would be excellent to make a cast of extremely faint hammer blows on a safe?

1. Posmoulage
2. Epoxy casting
3. Silicone rubber
4. Dental stone

- 17-2. What is the approximate circumference of a tire, in feet?

1. 1 to 3
2. 5 to 8
3. 10 to 12
4. 13 to 15

- 17-3. When using a hollow cast with melted moulage, how many minutes should you let it stand before pouring out the excess moulage?

1. 1 to 1 1/2
2. 2 to 3
3. 5 to 6
4. 10 to 15

- 17-4. When a laboratory examines cast and mold evidence, class and individual characteristics are considered.

1. True
2. False

- 17-5. Which of the following types of markers may be used to mark glass fragments?

1. Grease pencil
2. Diamond point pencil
3. Carborundum pencil
4. All of the above

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| <ol style="list-style-type: none"><li>A. Density</li><li>B. Fluorescence</li><li>C. Refractive index</li><li>D. Spectrographic analysis</li></ol> |
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Figure 17-A

IN ANSWERING QUESTIONS 17-6 THROUGH 17-9, SELECT THE EXAMINATION TERM FROM FIGURE 17-A THAT MATCHES THE DESCRIPTION GIVEN AS THE QUESTION.

- 17-6. Refers to the change of direction of a ray of light passing through a medium.

1. A
2. B
3. C
4. D

- 17-7. Based on the fact that mineral constituents impart a distinctive reaction when this technique is used.

1. A
2. B
3. C
4. D

- 17-8. This technique is based on comparing the characteristics of known and unknown pieces of glass.

1. A
2. B
3. C
4. D

- 17-9. Has the greatest value in demonstrating major differences between two samples.
1. A
  2. B
  3. C
  4. D

- A. Tool mark
  - B. Friction mark
  - C. Combination mark
  - D. Negative impression

Figure 17-B

IN ANSWERING QUESTIONS 17-10 THROUGH 17-15, SELECT THE TERM FROM FIGURE 17-B THAT MATCHES THE DESCRIPTION GIVEN AS THE QUESTION. RESPONSES MAY BE USED MORE THAN ONCE.

- 17-10. Made when a tool is pressed against or into a receiving surface.
1. A
  2. B
  3. C
  4. D
- 17-11. Made when a crowbar is forcefully inserted into a space between a door and the door facing.
1. A
  2. B
  3. C
  4. D
- 17-12. Made when a tool cuts into or slides across a surface.
1. A
  2. B
  3. C
  4. D
- 17-13. Usually made when a crowbar is used to pry open a door or window.
1. A
  2. B
  3. C
  4. D
- 17-14. An impression, cut, scratch, or abrasion made when a tool is brought into contact with an object.
1. A
  2. B
  3. C
  4. D
- 17-15. This type of mark may be made by a bolt cutter.
1. A
  2. B
  3. C
  4. D
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- 17-16. Tool mark evidence may be used for which of the following reasons?
1. To link a person who uses a given tool with the crime scene
  2. To establish a connection between similar evidence discovered in a series of crimes
  3. To compare a tool mark from a crime scene with a tool mark found on the property of a suspect
  4. All of the above
- 17-17. When processing a tool mark as evidence, how many different courses of actions are available to the investigator?
1. Seven
  2. Five
  3. Three
  4. Nine

- 17-18. A casting can be just as good or better than the original impression.
1. True
  2. False
- 17-19. An area containing a tool mark that is removed as evidence should be marked with all except which of the following information?
1. Case number
  2. Command's name
  3. Investigator's initials
  4. Date and time of removal
- 17-20. Wire obtained for laboratory examination should not be cut with the suspect tool.
1. True
  2. False
- 17-21. Serial numbers on manufactured objects are made up of which of the following?
1. Individual letters
  2. Combination of numbers
  3. Combination of numbers, letters or symbols
  4. All of the above
- 17-22. Serial numbers are usually attached to objects in all but which of the following ways?
1. Engraved
  2. Permanent ink
  3. Molded
  4. Etched
- 17-23. On a normal person, blood usually begins to clot after how many minutes?
1. 1 to 2
  2. 2 to 3
  3. 3 to 5
  4. 6 to 8
- 17-24. What color is blood after it has completely dried?
1. Red
  2. Black
  3. Reddish-brown
  4. Reddish-black
- 17-25. When a drop of blood falls from 6 to 12 inches, the bloodstains appear as a circular disk on a smooth surface.
1. True
  2. False
- 17-26. When a drop of blood falls from 12 to 60 inches, the bloodstains appear jagged.
1. True
  2. False
- 17-27. When a drop of blood falls from 2 to 3 yards, it may splash upon impact and form many small bloodstains.
1. True
  2. False
- 17-28. Blood usually clots in approximately how many minutes?
1. 1 to 3
  2. 4 to 6
  3. 10 to 20
  4. 25 to 30
- 17-29. Before sending a bloodstained article to the lab for examination it should be thoroughly dried. How should the drying process be completed?
1. Place the article in a dryer
  2. Place the article under heat lamps
  3. Place the article where an electric fan can blow across
  4. Place the article where it can dry naturally

17-30. What fraction of an ounce of blood is required for laboratory examination?

1. 1/16
2. 1/6
3. 1/4
4. 1/2

17-31. How many tubes of blood should be submitted to the lab for examination?

1. One
2. Two
3. Three
4. Four

17-32. Human blood is classified into a total of how many blood groups?

1. six
2. Five
3. Three
4. Four

17-33. In the continental United States, what is the approximate percentage of people who belong to blood group AB?

1. 7%
2. 2%
3. 3%
4. 5%

17-34. In the continental United States, what is the approximate percentage of people who belong to blood group O?

1. 75%
2. 63%
3. 51%
4. 43%

17-35. Grouping dried blood stains is considerably more difficult than grouping liquid blood.

1. True
2. False

17-36. When human blood is examined in the laboratory, the preferred test is the precipitin test.

1. True
2. False

17-37. For blood group testing, what size bloodstain is generally sufficient for a conclusive determination?

1. 1/16 x 1/8 in.
2. 1/6 x 1/8 in.
3. 1/2 x 1/4 in.
4. 3/4 x 7/8 in.

17-38. Approximately what percentage of the population are secretors?

1. 25%
2. 35%
3. 65%
4. 80%

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| <ol style="list-style-type: none"><li>A. cortex</li><li>B. Cuticle</li><li>c. Medulla</li><li>D. Cuticular scales</li></ol> |
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Figure 17-C

IN ANSWERING QUESTIONS 17-39 THROUGH 17-44, SELECT THE TERM FROM FIGURE 17-C THAT HATCHES THE DESCRIPTION GIVEN AS THE QUESTION. RESPONSES MAY BE USED MORE THAN ONCE.

17-39. A continuous dark line of varying width running up the center.

1. A
2. B
3. C
4. D

17-40. The outer surface of the hair.

1. A
2. B
3. C
4. D

- 17-41. Similar to overlapping shingles on a roof.
1. A
  2. B
  3. C
  4. D
- 17-42. The inner portion of the hair.
1. A
  2. B
  3. C
  4. D
- 17-43. The core portion of the hair shaft.
1. A
  2. B
  3. C
  4. D
- 17-44. Contains the pigmentation of the hair.
1. A
  2. B
  3. C
  4. D
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- 17-45. What is usually the first thing a laboratory determines about a hair sample?
1. If it is from a male or female
  2. If it is human or animal
  3. The race of the person
  4. The part of the body the hair is from
- 17-46. In the case of human hairs the laboratory determinations may include which of the following?
1. How the hair was removed
  2. How the hair was treated
  3. Blood grouping
  4. All of the above
- 17-47. Contact between two pieces of fabric seldom can be made without an interchange of fiber material.
1. The
  2. False
- 17-48. When known samples from a victim or suspect are collected, what minimum quantity of hair or fabric strands should be collected?
1. 5
  2. 12
  3. 20
  4. 35
- 17-49. When you secure soil for comparison samples, about how much soil should you collect?
1. 1 teaspoon
  2. 2 tablespoons
  3. 5 large scoops
  4. 1 quart
- 17-50. When a soil sample is taken, it is seldom necessary to dig deeper than how many inches?
1. 1/8 to 1/4
  2. 1/8 to 3/16
  3. 1/2 to 3/4
  4. 1 to 2

- A. Spectrograph
- B. Infrared light
- C. Ultraviolet light
- D. Spectrophotometer
- E. Gas-liquid chromatography

Figure 17-D

IN ANSWERING QUESTIONS 17-51 THROUGH 17-60, SELECT THE LABORATORY TECHNIQUE FROM FIGURE 17-D THAT MATCHES THE DESCRIPTION GIVEN AS THE QUESTION. RESPONSES MAY BE USED MORE THAN ONCE.

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| <p>17-51. Permits qualitative and quantitative analysis of a substance.</p> <ul style="list-style-type: none"> <li>1. B</li> <li>2. C</li> <li>3. D</li> <li>4. E</li> </ul>    | <p>17-55. Minute quantities of evidentiary material are often analyzed.</p> <ul style="list-style-type: none"> <li>1. A</li> <li>2. B</li> <li>3. D</li> <li>4. E</li> </ul>                                       |
| <p>17-52. Material to be analyzed is injected.</p> <ul style="list-style-type: none"> <li>1. A</li> <li>2. B</li> <li>3. D</li> <li>4. E</li> </ul>                             | <p>17-56. A mixture of several substances may be analyzed.</p> <ul style="list-style-type: none"> <li>1. A</li> <li>2. B</li> <li>3. D</li> <li>4. E</li> </ul>  |
| <p>17-53. Has no fluorescent effect that can be seen with the unaided eye.</p> <ul style="list-style-type: none"> <li>1. A</li> <li>2. B</li> <li>3. C</li> <li>4. D</li> </ul> | <p>17-57. Produces a graph showing the basic constituents and trace elements.</p> <ul style="list-style-type: none"> <li>1. A</li> <li>2. B</li> <li>3. D</li> <li>4. E</li> </ul>                                 |
| <p>17-54. The light emission phenomenon resulting is one of fluorescence.</p> <ul style="list-style-type: none"> <li>1. B</li> <li>2. C</li> <li>3. D</li> <li>4. E</li> </ul>  | <p>17-58. Uses a slightly shorter wavelength than normal visible light.</p> <ul style="list-style-type: none"> <li>1. A</li> <li>2. B</li> <li>3. C</li> <li>4. D</li> </ul>                                       |
|   | <p>17-59. The application of this instrument lies primarily in its identification and analysis of substances.</p> <ul style="list-style-type: none"> <li>1. A</li> <li>2. C</li> <li>3. D</li> <li>4. E</li> </ul> |
|   | <p>17-60. Uses a slightly longer wavelength than normal visible light.</p> <ul style="list-style-type: none"> <li>1. B</li> <li>2. C</li> <li>3. D</li> <li>4. E</li> </ul>  |
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17-61. Conditions under which polygraph examinations may be conducted are set forth in which of the following manuals?

1. SECNAVINST 3120.32
2. SECNAVINST 5520.4
3. OPNAVINST 5580.1
4. OPNAVINST 5530.14

17-62. Only DOD-certified examiners or intern examiners under direct supervision of a certified examiner are authorized to conduct polygraph examinations.

1. True
2. False